



methods. Histological sections of the pancreas were studied immunohistochemically with antibodies against C-kit (marker of progenitor cells) and insulin (the marker of differentiated B-cells).

**The results** of the study showed the appearance of C-kit- positive cells in islets, which produced insulin after one day of the injection. These cells were persisted at all stages of the experiment.

**Conclusions.** Thus, we can conclude that the C-kit- positive cells facility of insulin producing may indicate their role in the correction of carbohydrate metabolism during diabetes mellitus type I. Scientific project is supported by grant of the President RF MK-3632.2011.7

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### **DOES CAFFEINE CAUSE HEADACHES, OR CURE THEM?**

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**Introduction.** Caffeine is a commonly used drug that increases alertness, decreases fatigue, and improves muscle coordination. Though coffee comes to mind as the most common source of caffeine, it's also naturally found in tea and chocolate, and it is often added to soft drinks and non-prescription drugs like pain-relievers and cold remedies. People vary in their sensitivity to caffeine. If used excessively, caffeine can be too stimulating and cause anxiety, sleep problems, muscletwitching, or abdominal pain.

**Aim.** To establish the cause of headaches by people, who drink coffee.

**Results.** Caffeine is a drug that has no flavor and occurs naturally in food. It can be made synthetically also. Caffeine is somewhat addictive and is added to some products, such as soft drinks and medications. The body quickly absorbs caffeine and it moves rapidly to the brain. It doesn't stay in the bloodstream, but is removed in the urine. How Does Caffeine Treat Headaches? Caffeine is a common ingredient in many prescription and over-the-counter headache medications. Caffeine additives make pain relievers 40% more effective in treating headaches. Caffeine also helps the body absorb headache drugs more quickly, bringing faster relief. By adding caffeine and, in turn, taking less medication, you can reduce the risk for potential side effects and possible drug addiction. And now I want to show you 5 causes of caffeine headache: Caffeine withdrawal; Varied caffeine consumption; Caffeine overdose; Caffeine sensitivity; Caffeine allergy. The number one cause of a caffeine headache is caffeine withdrawal. Even a small decline (50-100mg) in the amount of caffeine a person usually consumes can result in a mild headache. People who miss their daily dose, consume less than their average, or who are detoxing from caffeine will most likely experience this type of headache. People who consume caffeine in a hit or miss fashion tend to have more caffeine induced headaches than those that have the same amount every day. Also, for those that consume too much caffeine in a short amount of time often experience a headache as a common caffeine overdose symptom. Finally, those who are ultra-sensitive to the caffeine molecule or who have an "allergic-like" reaction to the substance, can also experience a headache. However, this type of caffeine headache the least common. The most important question in our work is: how to remedy an aching head? The best remedy for a caffeine withdrawal headache is to consume more caffeine. As soon as a person begins to feel a tightness behind the eyes, he/she should evaluate their recent caffeine



consumption and then consume an adequate amount of caffeine to stop the withdrawal. Pain relievers such as Excedrin also include caffeine and can remedy the caffeine withdrawal headache faster since they also have added pain relievers.

**Conclusion.** For those that are purposely detoxing from caffeine or for those that have consumed too much caffeine, we recommend the following: take pain relievers like ibuprofen, acetaminophen, aspirin, and naproxen (use only as directed); drink plenty of water; avoid medications, beverages, and foods with added caffeine; sleep. Most of the time a caffeine headache will peak in severity and then gradually get better as the body adjusts to having no caffeine.

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**NEUROHORMONAL AND METABOLIC PARAMETERS IN ONE-MONTH**  
**RATS UNDER THE STRESS**

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**Aim.** Due to known more pronounced reaction of the child's body on any external stimuli aim of the present study was to study the state of stress implementing systems of adult-rats in compare to young-rats.

**Materials and methods.** The experiments were performed on 24 white rats of which 12 were adult animals of both sex, weight 180 - 220 and 12 one-month age, weight 45 - 80 gram. Acute stress simulated by immobilizing adult rats in cages for 20 hours, and one-month rats - fixation on the back for 3 hours. Stress reactions were judged by the dynamics of weight parameters of the hypothalamic - pituitary - adrenal system and acid balance.

**Results.** Based on the comparative analysis of neurohormonal indicators, shows that immobilization did not cause one-month animals typical stress reactions. But metabolic processes have significantly different from adults in the control, where were marked a statistically significant increase in blood sugar levels and decrease in intensity pro- and antioxidant reactions, and under stress immobilization in which hyperglycemia and oxidative imbalance were more pronounced than in adult rats.

**Conclusions.** As can be seen, the formation adaptation mechanism at young age depends on the degree of maturation of systems of self-regulation, of which metabolic outruns neurohumoral system and reacts before on effect of extreme factors.

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**ERYTHROPOIETIN IS ELUSIVE DOPE**

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**Introduction.** Erythropoietin is a glycoprotein hormone (a cytokine precisely). It is main regulator of erythropoiesis: it stimulates the production of red blood cells from late progenitor cells (or rather erythropoietin binds to erythropoietin-sensitive receptors that are located predominantly on erythroblasts, and promotes proliferation of blastic active forms) and increases the outlet of reticulocytes from the marrow depending on the oxygen consumption.

**Results.** So it can increase the delivery of oxygen to the tissues and increase the efficiency of the organism. And this property is used by athletes. Active usage of erythropoietin dope started from the time when it became possible to produce erythropoietin